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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,693	08/05/2003	Vinode Ramnauth	MBO-157	8375

20028 7590 01/10/2006

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EXAMINER

GATES, ERIC ANDREW

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/635,693	Applicant(s) RAMNAUTH ET AL.	
	Examiner Eric A. Gates	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is in response to Applicant's amendment filed on 27 October 2005.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-6, 8, 20, and 22 are rejected under 35 U.S.C. 102(b) as anticipated by Zankl (U.S. Patent 4,164,290) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zankl in view of Hajdukiewicz (U.S. Patent 5,971,903).

5. In reference to claim 1, Zankl discloses a support post assembly, identified as a tool changer drum 40, and tool members 26/46, said combination capable of providing a selected tool member 26/46 from a plurality of tool members 26/46 for use in a machine operation. Elongate support post assembly 40 is adapted for rotation about a

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longitudinal axis 42. Said plurality of tool members 26/46 are each pivotally attached to said support post assembly 40, and are adapted to pivot between a storage position and a working position where the tool member 26/46 extends outwardly in a substantially radial direction from the longitudinal axis of the support post 40 (portion 26 extends in the radial direction from the longitudinal axis). A movable actuating member, plunger 64, selectively pivots any one of said tool members 26/46 from the storage to the working position.

6. While support post assembly 40 meets the basic definition of elongate in the longitudinal direction per Webster's Online Dictionary, i.e., stretched out, as it does have a length in this direction, in the alternative Hajdukiewicz teaches the use of an elongate support post 12 for a tool changer for the purpose of providing elongated tools to a probe head. Therefore it would have been obvious to one having ordinary skill in the art to modify the tool changer of Zankl with the post of Hajdukiewicz in order to have the capability to use tools of greater length.

7. Per claim 2, Zankl discloses a bearing support 38 extends around an end section of assembly 40 and provides rotatable support.

8. Per claim 3, actuating member 64 is an elongate rod that is non-rotably mounted in a central passageway extending along said longitudinal axis 42 of said post assembly 40.

9. Per claim 5, said post has a plurality of recesses formed by the adjacent tool members 26/46, whereby each tool member lies substantially within its respective recess in its first position.

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10. Per claim 6, a gear assembly 44 is mounted on an end section of and extends around said post assembly 40 and rotates said post assembly 40 about longitudinal axis 42.

11. Per claim 8, pneumatic cylinder 96, fixedly mounted on housing 104, has a movable pusher rod 98 connected to said elongate rod 64 in a central passageway, as seen in Figures 7 and 9.

12. Per claim 20, a tool device 26/46 mounted in a tool supporting assembly 40 for use in a machine operation (there is no requirement in the claim for the entire tool device to be used in a machine operation), has a tool head 26 suitable for carrying out said machine operation. An elongate tool holder 46 has opposite first and second end sections, said first section adapted to rigidly support said tool head 26, and said second end section having a flat end surface extending at an acute angle to a central longitudinal axis of said tool holder 46, as shown in Figure 11, and a recess formed by the adjacent tool holders 46 on a bottom side of the tool holder 46 when said tool holder is horizontal during use of the tool device 26/46, to accommodate pivotal movement of said tool device 26/46 in and out of the storage area. A means 54 for forming a pivot axis is located at the second end section of the tool holder 46, extending transversely relative to said central longitudinal axis.

13. Per claim 22, said pivot axis forming means 54 is a pivot pin and includes a transversely extending hole formed in said second end section of the tool holder 46, and is adapted to fit snugly in said hole.

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14. Claims 11-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zankl, or in the alternative, as obvious over Zankl in view of Hajdukiewicz.

15. Per claim 11, the elongate support post 40 as disclosed above extends vertically during use of said post from a bottom end to a top end thereof. The plurality of tool members 26/46 as claimed above each have a first end section and second end section, each pivotally attached at said first end section to said post 40 in the vicinity of said top end thereof (the vicinity of the top end is herein considered to be from the top to the center of the post 40). The linearly moveable actuating member 64, which selectively pivots any one of said tool members 26/46, is moveably mounted in said support post 40. Bearing support arrangement 38 supports said support post 40 for rotation about said longitudinal axis 42. A power drive system 82 operatively connected (connected by operation of the pneumatics) to an upper section of said support post 40 is capable of rotating same about longitudinal axis 42.

16. Per claim 16, said support apparatus 40 for a plurality of tool members 26/46 as disclosed above, said elongate support post has an upper section adapted for pivotally supporting said plurality of tool members 26/46 and lower section. A linearly moveable actuating member 64 selectively pivots any one of said too members 26/46 from a first storage position to a working position where the selected tool member 26/46 extends substantially radially outward from the support post 40, said actuating member 64 being movably mounted in said support post 40. A bearing support arrangement 38 rotably supports said support post 40 for rotation about said longitudinal axis 42, said support arrangement 38 engaging said lower section of the support post 40. A power drive

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system 90 is operatively connected to an upper section of said support post and is capable of rotating said support post 40 about its longitudinal axis 42.

17. Zankl does not disclose that the power drive system is operatively connected to a lower section of said support system. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have moved the power drive system from the upper section to the lower section of the support post, since it has been held that rearranging parts of an invention involves only routine skill in the art.

18. While support post assembly 40 meets the basic definition of elongate in the longitudinal direction per Webster's Online Dictionary, i.e., stretched out, as it does have a length in this direction, in the alternative Hajdukiewicz teaches the use of an elongate support post 12 for a tool changer for the purpose of providing elongated tools to a probe head. Therefore it would have been obvious to one having ordinary skill in the art to modify the tool changer of Zankl with the post of Hajdukiewicz in order to have the capability to use tools of greater length.

19. Per claim 12, said actuating member is an elongate rod 64 extending through a central axial passageway in said support post 40 linearly moveable therein.

20. Per claim 13, a linear actuator 96 connected to an end section of said elongate rod 64 is adapted to move said rod 64 longitudinally relative to said support post 40. Movement of said rod 64 would be upwardly or downwardly if said support post 40 was reoriented 90 degrees, and it is not considered that this would affect the invention as disclosed.

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21. Claims 4, 9, 14, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zankl in view of Von Haas (U.S. Patent 5,065,492), or in the alternative, as obvious over Zankl in view of Hajdukiewicz and further in view of Von Haas. Zankl discloses the invention substantially as claimed except Zankl does not disclose that the actuating member has a wedge provided on the upper end section of an elongate rod, with an inclined surface extending upwardly and radially outward relative to a central longitudinal axis, wherein each tool member has an inclined surface adapted for engagement with the inclined surface of said wedge when the respective tool member is pivoted towards its working position by said actuating member. Zankl also does not disclose a central longitudinal air passage through said elongate rod which is connectable to a source of pressurized air deliverable to a cavity formed in the end section of said support post, for the purpose of keeping chips and debris out of said cavity. Von Haas teaches the use of an elongate rod 6 as the actuating member. Said elongate rod 6 includes a wedge provided on an upper end section of said rod (upper end being a relative term to the orientation of the rod) having an inclined surface (identified as conical surface on page 6, lines 8-9) that drives radially movable members 17 outwardly into the tool head 12, through a camming action within a stub 14 of the tool base holder 2, for the purpose of locking the tool in its working position. Von Haas also teaches the use of compressed air through a central axial bore in a plunger 5 continuing through a bore in the elongate rod 6 for the purpose of cleaning the region in which the tool head 12 is coupled to the tool holder 2 (page 4, lines 66-67 and page 5, lines 1-8 and Figure 2). Therefore it would have been obvious to one having ordinary skill in the

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art to modify the tool changer of Zankl with the elongate rod and compressed air of Von Haas in order to provide an actuating member capable of positioning the tool while also providing compressed air to keep debris out of the working region.

22. Von Haas does not disclose that the wedge of the elongate rod directly engages the tool member, instead engaging the tool member through pins 17. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the wedge with the pins, because it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art, in which case the modified elongate rod with inclined wedge surface of Zankl would be adapted for engagement with the tool member by pivoting it towards its working position and further causing the tool member to be locked in said working position.

23. Claims 7, 15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zankl in view of Yasuda (U.S. Patent 5,134,767), or in the alternative, as obvious over Zankl in view of Hajdukiewicz and further in view of Yasuda. Zankl discloses the invention substantially as claimed except Zankl does not disclose a servomotor for rotating the gear assembly, with an output shaft operatively connected to said gear assembly and capable of driving the gear in order to rotate said post. Zankl also does not disclose the use of a bevel gear as the gear assembly. Zankl does disclose a ring gear 44 rigidly mounted on and extending around the support post 40. Yasuda teaches the use of a magazine motor 68 with an output shaft 70 that is operatively connected to and rotates a bevel gear 72 in order to rotate a tool magazine base 64. Therefore it

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would have been obvious to one having ordinary skill in the art to modify the tool changer of Zankl with the motor-gear assembly of Yasuda in order to use electricity instead of hydraulics to power the machine.

24. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zankl in view of Tokura (U.S. Patent 5,730,691), or in the alternative, as obvious over Zankl in view of Hajdukiewicz and further in view of Tokura. Zankl discloses the invention substantially as claimed except Zankl does not disclose the use of six different tool members. Tokura teaches the use of six different tools, as shown in Figure 1, for the purpose of providing a multi-function machine. Therefore it would have been obvious to one having ordinary skill in the art to modify the tool changer of Zankl with the tooling configuration of Tokura in order to perform six different machine operations.

25. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zankl in view of Noa (U.S. Patent 3,851,364), or in the alternative, as obvious over Zankl in view of Hajdukiewicz and further in view of Noa. Zankl discloses the invention substantially as claimed except Zankl does not disclose the tool head to be connected to the tool holder by means of at least one threaded fastener. Noa teaches the insertion of four tools 62 into pockets 63 at the circumference of the tool head 12 which are chucked in said pocket 63 by means of clamping jaws 64 and clamping screws 65, for the purpose of safely retaining said tools in the chuck. Therefore it would have been obvious to one having ordinary skill in the art to modify the tool changer of Zankl with the clamping screws of Noa in order to detachably connect the tools to the chuck.

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26. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zankl, or in the alternative, as obvious over Zankl in view of Hajdukiewicz. Zankl discloses a tool device 26/46 with a flat end surface, as shown in Figures 9 where the reference number 52 is pointing, that extends from one side of the arm to the opposite side as seen in Figure 10, and is at an acute angle to a plane extending perpendicular to said central longitudinal axis. Zankl does not disclose the acute angle to range between 8 and 10 degrees. However, Zankl's angled edge appears to be for the same purpose as the claimed invention, that is, to aid in the movement of the pivoting arm. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the angle of Zankl to be between 8 and 10 degrees for the purpose of avoiding self-locking of the tool device, because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Response to Arguments

27. Applicant's arguments with respect to claims 1, 4, 7, 9-11, and 14-21 have been considered but are moot in view of the new ground(s) of rejection.

28. Applicant's argument regarding claim 23 is not persuasive. Applicant is merely arguing an intended use for the acute angle of the flat end surface, and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

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29. For the reasons set forth above, the rejections are maintained.

Conclusion

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric A. Gates whose telephone number is 571-272-5498. The examiner can normally be reached on Monday-Thursday 7:45-6:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EAG

4 January 2006



BOYER D. ASHLEY
SUPERVISORY PATENT EXAMINER